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=> s invert emulsion and calcium chloride and ethoxylated sorbitan and micelle

6850 INVERT  
196669 EMULSION  
251 INVERT EMULSION  
(INVERT(W) EMULSION)  
767348 CALCIUM  
1079502 CHLORIDE  
39258 CALCIUM CHLORIDE  
(CALCIUM(W) CHLORIDE)  
38115 ETHOXYLATED  
17027 SORBITAN  
438 ETHOXYLATED SORBITAN  
(ETHOXYLATED(W) SORBITAN)  
40533 MICELLE

L1 0 INVERT EMULSION AND CALCIUM CHLORIDE AND ETHOXYLATED SORBITAN  
AND MICELLE

=> s ethoxylated sorbitan and micelle and ester and carboxylic

38115 ETHOXYLATED  
17027 SORBITAN  
438 ETHOXYLATED SORBITAN  
(ETHOXYLATED(W) SORBITAN)  
40533 MICELLE  
578873 ESTER  
238540 CARBOXYLIC

L2 0 ETHOXYLATED SORBITAN AND MICELLE AND ESTER AND CARBOXYLIC

=> s ethoxylated sorbitan and micelle and ester

38115 ETHOXYLATED  
17027 SORBITAN  
438 ETHOXYLATED SORBITAN  
(ETHOXYLATED(W) SORBITAN)

40533 MICELLE  
578873 ESTER

L3 2 ETHOXYLATED SORBITAN AND MICELLE AND ESTER

=> d 13 1-2

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 2005:285429 CAPLUS  
DN 143:64610  
TI Polycyclic aromatic hydrocarbon behavior in bioactive soil slurry reactors amended with a nonionic surfactant  
AU Kim, Han S.; Weber, Walter J., Jr.  
CS Department of Chemical Engineering, Energy and Environment Program, The University of Michigan, Ann Arbor, MI, 48109-2099, USA  
SO Environmental Toxicology and Chemistry (2005), 24(2), 268-276  
CODEN: ETOCDK; ISSN: 0730-7268  
PB SETAC Press  
DT Journal  
LA English  
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1999:801073 CAPLUS  
DN 132:82909  
TI Solubilization Rates of n-Alkanes in Micellar Solutions of Nonionic Surfactants  
AU Prak, Dianne J. Luning; Abriola, Linda M.; Weber, Walter J., Jr.; Bocskay, Kirsti A.; Pennell, Kurt D.  
CS Department of Civil and Environmental Engineering, The University of Michigan, Ann Arbor, MI, 48109-2125, USA  
SO Environmental Science and Technology (2000), 34(3), 476-482  
CODEN: ESTHAG; ISSN: 0013-936X  
PB American Chemical Society  
DT Journal  
LA English  
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 13 1-2 abs

L3 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN  
AB The effects of an **ethoxylated sorbitan fatty ester** nonionic surfactant (Tween 80) on the bioavailability of polycyclic aromatic hydrocarbons (PAHs) were examined using soil-free and dense-slurry (67% solids content, by weight) systems containing a creosote-contaminated field soil. The dispersed-**micelle**-phase PAHs in soil-free systems were not readily bioavailable to the mixed consortium of microbes indigenous to the creosote-contaminated soil. Instead, the microbes partially and preferentially utilized readily available portions of the surfactant as C sources (16-18% of the initial surfactant dose). This selective microbial attack resulted in destabilization of dispersed-phase micelles and significant decreases in molar solubilization ratio and **micelle**-water partition coefficient values. Remarkably high dosages (>20 g/L) of Tween 80 were required to enhance mobilization of the sorbed PAHs via **micelle** association because of the sorption of Tween 80 to the soil employed. The PAHs released from the destabilized micelles in soil-slurry systems either associated with sorbed-phase surfactants or readsorbed to soil organic matter too rapidly to be biol. accessed, even by the acclimated PAH-degrading microbes present. The work provides important new information and practical insights to surfactant solubilization and mobilization technol. applications for the bioremediation of PAH-contaminated soils and

sediments.

L3 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2006 ACS on STN

AB Accurate prediction of surfactant-enhanced recovery of organic contaminants in soils requires ests. of micellar solubilization rates. This study examines the influence of surfactant properties on the rates of solubilization of octane, decane, and dodecane in micellar solns. of a homologous series of purified dodecyl alc. ethoxylates and two com. surfactants, an ethoxylated linear alc. (Witconol SN-120) and an **ethoxylated sorbitan ester** (Witconol 2722). A batch mixing technique was employed to investigate these solubilization rates. For all surfactants studied, solubilization rates were found to increase with a decrease in solute chain length. For the purified surfactants, solubilization rates also increased with ethoxylate chain length. Batch concentration data were fit with a linear driving force mass transfer model. Effective mass transfer coeffs. determined from these data ranged over more than one order-of-magnitude for the systems examined ( $0.11$ - $3.3$  h<sup>-1</sup>). Correlations developed for the effective mass transfer coeffs. exhibit a dependence on the solute **micelle**-water partition coefficient, solute molar volume, and surfactant hydrophile-lipophile balance or ethoxylate chain length. Although the measured coeffs. are specific for this exptl. system, the results demonstrate the importance of employing organic and surfactant properties in the estimation of solubilization rates.

=> s water-in-oil emulsion and calcium chloride and ethoxylated sorbitan and micelle  
2378090 WATER  
737644 OIL  
196669 EMULSION  
4153 WATER-IN-OIL EMULSION  
(WATER (1W) OIL (W) EMULSION)  
767348 CALCIUM  
1079502 CHLORIDE  
39258 CALCIUM CHLORIDE  
(CALCIUM (W) CHLORIDE)  
38115 ETHOXYLATED  
17027 SORBITAN  
438 ETHOXYLATED SORBITAN  
(ETHOXYLATED (W) SORBITAN)  
40533 MICELLE  
L4 0 WATER-IN-OIL EMULSION AND CALCIUM CHLORIDE AND ETHOXYLATED SORBI  
TAN AND MICELLE

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	14	micelle and (ethoxylated adj sorbitan) and (carboxylic adj acid adj ester)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2006/06/15 14:33
L2	14	micelle and (ethoxylated adj sorbitan) and (carboxylic adj acid adj ester)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2006/06/15 14:47
L3	4	micelle and (ethoxylated adj sorbitan) and (palisade adj layer)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2006/06/15 14:45
L4	6	micelle and (ethoxylated adj sorbitan) and (invert adj emulsion or water-in-oil) and (calcium adj chloride)	US-PGPUB; USPAT; USOCR; EPO; DERWENT	OR	ON	2006/06/15 14:48